

1 **IN THE CLAIMS**

2 Please cancel claims 6, 9-10, 21-22, 25-26, and 29-36, and amend the claims as follows:

3
4 --1. **(Currently Amended)** An apparatus for automating an atmospheric pressure ionization (API)
5 source for a mass spectrometer, wherein said apparatus comprises:

6 a source tray positioned external to said mass spectrometer;

7 a robot interfaced with said API source for retrieving a sample for analysis and for
8 providing ions from said API source; and

9 ~~at least one atmospheric pressure ionization (API) source device;~~

10 ~~a mass analyzer; and~~

11 a capillary having an inlet end positioned to accept said ions and an outlet end

12 positioned to introduce said ions into a first vacuum region of said mass
13 spectrometer;

14 wherein said robot positions said API source near said inlet end of said capillary ~~is positioned~~
15 ~~by said robot for accepting~~ such that said ions from at least one of said API source devices are
16 introduced into said capillary; and

17 ~~wherein said outlet end of said capillary is positioned such that said ions are introduced into said~~
18 ~~mass analyzer.~~

19
20 2. **(Currently Amended)** An apparatus according to claim 1, wherein said capillary comprises a
21 substantially linear channel therethrough ~~traversing substantially straight through said capillary.~~

1 3. **(Original)** An apparatus according to claim 1, wherein said capillary comprises a channel having a
2 helical structure.

3
4 4. **(Original)** An apparatus according to claim 1, wherein said capillary comprises a channel having a
5 sinusoidal structure.

6
7 5. **(Original)** An apparatus according to claim 1, wherein said inlet end and said outlet end of said
8 capillary comprise conductive end caps.

9
10 6. **(Cancelled)**

11
12 7. **(Currently Amended)** An apparatus according to claim 1, wherein said API source device is
13 selected from the group consisting of an electrospray ionization (ESI) source, ~~matrix-assisted laser~~
14 ~~desorption/ ionization (MALDI) source~~ and an chemical ionization (CI) source.

15
16 8. **(Currently Amended)** An apparatus according to claim 7, wherein said ESI source is selected
17 from the group consisting of a pneumatically assisted electrosprayer, a microelectrosprayer, and a
18 nanoelectrosprayer.

19
20 9. - 10. **(Cancelled)**

1 11. (Currently Amended) An apparatus according to claim 1, wherein a first said API source is
2 an said apparatus comprises at least one ESI source and a second said API source is a at least one CI
3 source.

4
5 12. (Currently Amended) An apparatus according to claim 1, wherein an analyzer of said mass
6 spectrometer analyzer is selected from the group consisting of a time-of-flight mass analyzer, a
7 quadrupole mass analyzer, a quadrupole ion trap mass analyzer, and a Fourier transform ion cyclotron
8 resonance mass analyzer.

1 13. (Currently Amended) An apparatus for automating the mass spectrometric analysis of
2 samples ionized with an atmospheric pressure ionization (API) source ~~for a mass spectrometer~~, wherein
3 said apparatus comprises:

4 a source tray for holding at least one type of said sample material;

5 a multiple section capillary including first and second capillary sections each having an
6 inlet end and an outlet end;

7 a union for coaxially connecting with lateral seal said first capillary section to said
8 second capillary section; and

9 a robot interfaced with at least one said atmospheric pressure ionization (API) source
10 device, said robot including means for collecting said sample to be ionized by
11 said API source and means for controlling positioning of said API source; and

12 a mass analyzer region; ~~and~~

13 ~~a capillary having an inlet end and an outlet end;~~

14 wherein said API source ~~device~~ is positioned by said robot such that said ions produced
15 ~~therefrom~~ are introduced into said inlet end of said first capillary section, and

16 wherein said outlet end of said second capillary section is positioned such that said ions are
17 introduced into said mass analyzer region.

18
19 14. (Currently Amended) An apparatus according to claim 13, wherein at least one of said first or
20 second capillary sections comprises a substantially linear channel therethrough ~~traversing substantially~~
21 ~~straight through said capillary.~~

1 15. (Currently Amended) An apparatus according to claim 13, wherein at least one of said first or
2 second capillary sections comprises a channel having a helical structure.

4 16. (Currently Amended) An apparatus according to claim 13, wherein at least one of said first or
5 second capillary sections comprises a channel having a sinusoidal structure.

7 17. (Currently Amended) An apparatus according to claim 13, wherein at least one of said inlet
8 end-and or said outlet end of at least one of said first or second capillary sections comprise conductive
9 end caps.

11 18. (Currently Amended) An apparatus according to claim 13, wherein said outlet end of said
12 capillary is positioned such that said ions are transported into a first vacuum region of said mass
13 analyzer region apparatus.

15 19. (Currently Amended) An apparatus according to claim 13, wherein said API source device is
16 selected from the group consisting of an electrospray ionization (ESI) source, ~~matrix-assisted laser~~
17 ~~desorption/ ionization (MALDI) source~~, and a chemical ionization (CI) source.

19 20. (Currently Amended) An apparatus according to claim 19, wherein said ESI source is
20 selected from the group consisting of a pneumatically assisted electrosprayer, a microelectrosprayer,
21 and a nanoelectrosprayer.

21. - 22. (Cancelled)

23. (Currently Amended) An apparatus according to claim 13, wherein a first said API source is
an said apparatus comprises at least one ESI source and a second said API source is a at least one CI
source.

24. (Currently Amended) An apparatus according to claim 13, wherein said mass analyzer region
includes an analyzer [[is]] selected from the group consisting of a time-of-flight mass analyzer, a
quadrupole mass analyzer, a quadrupole ion trap mass analyzer, and a Fourier transform ion cyclotron
resonance mass analyzer.

25. - 26. (Cancelled)

27. (Currently Amended) An apparatus according to claim 13 [[25]], wherein said apparatus
further comprises a union including ~~comprises~~ means for removably securing said ends of said first and
second sections.

28. (Currently Amended) An apparatus according to claim 27 [[25]], wherein said union
comprises means for providing a substantially airtight seal between said ends of said first and second
sections within said union.

1 29. - 36. (Cancelled)

2
3 37. (New) An apparatus according to claim 1, wherein said capillary is a multiple section capillary
4 having a first section including an inlet end and an outlet end, said first section for receiving ions from
5 said API source, and a second section having an inlet end and an outlet end, wherein said outlet end of
6 said first section is coaxially positioned with said inlet end of said second section, and said outlet end of
7 said second section is positioned such that said ions are introduced into a first vacuum region of said
8 mass spectrometer.

9
10 38. (New) An apparatus according to claim 37, wherein at least one of said first section or said
11 second section comprises a channel having a helical structure.

12
13 39. (New) An apparatus according to claim 37, wherein at least one of said first section or said
14 second section comprises a channel having a linear structure.

15
16 40. (New) An apparatus according to claim 37, wherein at least one of said first section or said
17 second section comprises a channel having a sinusoidal structure.

18
19 41. (New) An apparatus according to claim 37, wherein said first and second sections are
20 removably connected with a union.

1 42. (New) An apparatus according to claim 41, wherein said union comprises means for providing
2 an airtight seal between said ends of said first and second sections within said union.--